APR 2.5 2002

TECH CENTER 1600/2900



SEQUENCE LISTING

<110> Yang, Chu-Wen
 Tsou, Ann-Ping
 Chi, Chin-Wen
 Fann, Ming-Ji
 Chou, Chen-Kung

-120 > CELL CYCLE REGULATOR PROTEIN

+:130> 12005-003001

<150> 60/262,885
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-1600-6

+170 · FastSEQ for Windows Version 4.0

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+212> DNA

-213 Mus musculus

400> 1

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ggt gaaaagg	agacgacotg	cacagatotg	gatggattct	gggatatggt	tagttttcag	1 % (6)
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-212> PRT

+213> Mus musculus

.400 > 2

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	290					295					300				
Ser 305		Ala	Pro	Lys	His 310	Cys	Val	Phe	Gln	Prc 315	Pro	Сув	Gly	Leu	Lys 320
Ser	Tyr	Gln	Val	Ala 3.5	Pre	L÷u	Ser	Pro	Arg 330	Ser	Ala	Asn	Ala	Phe	Letu
Thr	Pro	Asn	Cys 340	Asp	Trr	Asn	Gln	Leu 345	Arg	Pro	Glu	Val	Phe 350	Ser	Thr
Thr	Thr	Gln 355	Asp	Lys	Ala	Asn	Glu 360	Ile	Leu	Val	Gln	Gln 365	Gly	Leu	Gla
Ser	Leu 370	Thr	Asp	Ar.a	Ser	Lys 375	Glu	His	Väl	Leu	Asn 380	G!n	Lys	Gly	Ala
385			Asp		390					395					$4 \odot 0$
			Glu	405					410					415	
			Ile 420					4.25					430		
		435	Glu				440					445			
	450		Arg			455					460				
465			Gln		47C					475					$4 \circ 0$
			Glu	485					496					4:+5	
			Gln 500		_	_		505					510		
_		515	Ala				520					525			
	530		Lys			5.35		_			540				
545	_	_	Gly		550					555					560
			Lys	563	-				570					575	
			Thr 580					585					590		
		595	Ile Ser				600	_				505			
	610		Gly			615					620				
625			Pro		630					63E					640
			Asp	645					650					6.75	
			660 Glu					665					67¢		
_		675	Lys		-		680					635			
	690		Asp		-	695					700				
705		_	Ser		710					715					720
	_		Asn	725					730					7 +5	
	J_ U		740		~ C L		J ± 11	745	110.11		~		750		

4210 → 3
4211 → 2538
4212 → DNA

::213. Homo sapiens

-:400 → 3

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Ĭ.

ctacaaccag gagaattt 2538

 $1210 \cdot 4$ <211 · 846</p> <.112> PRT -:213: Homo sapiens .400 - 4 Met Ser Ser His Phe Ala Ser Arg His Arg Lys Asp Ile Ser Thr 10 Glu Met Ile Arg Thr Lys Ile Ala His Arg Lys Ser Leu Ser Gln Lys 25 20 Glu Asn Arg His Lys Glu Tyr Glu Arg Asn Arg His Phe Gly Leu Lys 40 Asp Val Ash Ile Pro Thr Leu Glu Gly Arg Ile Leu Val Glu Leu Asp 5.5 60 Glu Thr Ser Gln Glu Leu Val Pro Glu Lys Thr Ash Val Lys Pro Arg 70 Ala Met Lys Thr Ile Leu Gly Asp Gln Arg Lys Gln Met Leu Gln Lys 85 Tyr Lys Glu Glu Lys Gln Leu Gln Lys Leu Lys Glu Gln Arg Glu Lys 100 105 Ala Lys Arg Gly Ile Phe Lys Val Gly Arg Tyr Arg Pro Asp Met Pro 120 115 Cys Phe Leu Leu Ser Asn Gln Asn Ala Val Lys Ala Blu Pro Lys Lys 1.3.5 140 Ala Ile Pro Ser Ser Val Arg Ile Thr Arg Ser Lys Ala Lys Asp Glr. 15.5 150 Met Glu Gln Thr Lys Ile Asp Asr. Glu Ser Asp Val Arg Ala Ile Arg 170 165 Pro Gly Pro Arg Gln Thr Ser Glu Lys Lys Val Ser Asp Lys Glu Lys 185 180 Lys Val Val Gln Pro Val Met Pro Thr Ser Leu Ang Met Thr Ang Ser 200 205 195 Ala Thr Gln Ala Ala Lys Gln Val Pro Ard Thr Val Ser Ser Thr Thr 215 Ala Arg Lys Pro Val Thr Arg Ala Ala Ash Glu Ash Glu Pro Glu Gly 230 235 Lys Val Pro Ser Lys Gly Arg Pro Ala Lys Ash Val Glu Thr Lys Pro 250 245 Asp Lys Gly Ile Ser Cys Lys Val Asp Ser Glu Glu Asn Thr Leu Asn 265 Ser Gln Thr Asn Ala Thr Ser Gly Met Asn Pro Asp Gly Val Leu Ser 275 280 Lys Met Glu Asn Leu Pro Glu Ile Ash Thr Ala Lys Ile Lys Gly Lys 295 300 Ash Ser Phe Ala Pro Lys Asp Phe Met Phe Glr. Pro Leu Asp Gly Leu 310 315 Lys Thr Tyr Gln Val Thr Pro Met Thr Pro Arg Ser Ala Ash Ala Phe 3. 5 3.00 Leu Thr Pro Ser Tyr Thr Trp Thr Pro Leu Lys Thr Glu Val Asp Glu 345 Ser Gln Ala Thr Lys Glu Ile Leu Ala Gin Lys Cys Lys Thr Tyr Ser 360 365 Thr Lys Thr Ile Gln Gln Asp Ser Asn Lys Leu Pro Cys Pro Leu Gly

375

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Glu	Arg	Asn	Glu 420	Glγ.	Arg	Ile	Ala	Gln 425	Pro	His	His	Gly	Val 430	Pro	Tyr
Phe	Arg	Asn 435	Ile	Leu	Gln	Ser	Glu 440	Thr	Glu	$L_T^{r,s}$	Leu	Thr 445	3er	His	Cys
Phe	Glu 450	Trp	Asp	Arg	Lys	Leu 455	Glu	Leu	Asp	Il∈	Pro 460	Asp	Asp	Ala	Lys
Asp 465	Leu	Ile	Arg	Thr	Ala 470	Val	Gly	Gln	Thr	Arg 475	Leu	Leu	Met	Lys	Glu 480
Arg	Phe	Lys	Gln	Ph.⊖ 483	Glu	Gly	Leu	Val	Asr 490	Asp	Сув	Glu	Tyr	Lys 495	Arg
Gly	Ile	Lys	Glu 500	Tr.r	Thr	Cys	Thr	Asp 505	Leu	Asp	Gly	?he	Trp 510	Asp	Met
		515	Gln			_	520					525			
Lys	Leu 530	Glu	Glu	Ser	Gly	Trp 535	Gln	Val	Asr	Asr:	Asn 540	Met	Asrı	His	Asn
545		_	Asn		550					555					560
_		_	Gln	565					57C					575	
			Lys 580					585					590		
		595	Ala				600					605			
	610		Gly			615					620				
625			Val		630					6.55					640
_			Asn	645					650					655	
			Thr 660					665					670		
		675	Val				630					635			
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705			Val		710					715					720
		_	Met	725					7.50		_			735	
			Asn 740					7.15					75()		
		755	Ser				760		-			765			
	770		Thr			775					780				
785			Gln		790					795.					300
_			Leu	80°					310					815	
			Arg 820	_				825		-			830	rne	ΣΤ۵
σтλ	ASN	Leu 835	Ile	ınr	rne	ser	840	ьeu	э±IJ	rro	'∠±',	345	rne		

+210 > 5 +211 + 2966 +212 + DNA +213 + Mus musculus	
+220+ +221+ CDS +222+ (301)(2724)	
agittatagt giglogetge giegociage gggittaceg detected decectogee ofecegetee caaccettig ecitocaaac aatttaaatg tegeacagaa deaacctate geaageeteg ticgagggga agggieggga getteeggaa gigitiggeaa aagteeetee aateagegge tiggeageggg aaatttaagt teegigaagg gieggieegg gagitteette tiggigategg tiggagtiite tigtiggga aattigtigtig gateeagaaa eigetteagg atg big gig tea egi tit gee agi egi tit egi aaa gad teg age act. Met Leu Val Ser Arg Phe Ala Ser Arg Phe Arg Lys Asp Ser Ser Thr	60 120 180 240 300 348
gag atg gtt aga abc aac ttg get dat aga aag tot etg tot dag aag Glu Met Val Arg Thr Ash Leu Ala His Arg Lys Ser Leu Ser Gln Lys 20 25 30	376
gag aac aga cac agg gtg tat gag oga aac aga cac ttc ggt ttg aag Glu Asn Arg His Arg Val Tyr Glu Arg Asn Arg His Phe Gly Leu Lys 35 40 45	444
gao gto aac att ooa otg gas ggg oga gag ott ggt aat ata oac gag Asp Val Asn Ile Pro Leu Glu Gly Arg Glu Leu Gly Asn Ile His Glu 50 58 60	
ada tog daa gad oto tot oda gag aag god ago tod aaa ada agg toa Thr Ser Gln Asp Leu Ser Pro Glu Lys Ala Ser Ser Lys Thr Ang Ser 68 70 75 80	540
gta aaa atg gto otg agt gab baa ogg aag bag bto oto bag aag tat Val Lys Met Val Leu Ser Asp Gln Arg Lys Gln Leu Leu Gln Lys Tyr 85 99	5 e 5
aag gaa gaa aaa caa ctt caa aaa ctg aaa gaa cag cga gag aaa goc Lys Glu Glu Lys Gln Leu Gln Lys Leu Lys Glu Gln Arg Glu Lys Ala 100 105 110	<u> ဗိုဒ်ဗိ</u>
aaa ogt gga gtg tto aaa gtg ggt oto tat aga ood got gog oot ggo Lys Arg Gly Val Phe Lys Val Gly Leu Tyr Arg Pro Ala Ala Pro Gly 115 120	ઈ≓નું
ttt ott gto ada gad bag agg ggt gog asa got gag boa gaa aag got Phe Leu Val Thr Asp Gln Arg Gly Ala Lys Ala Glu Pro Glu Lys Ala 130 - 135 - 140	73.3
ttt doa dat act gga ogg att aca aga toa aag aco asa gaa tat atg Phe Pro His Thr Gly Arg Ile Thr Arg Ser Lys Thr Lys Glu Tyr Mat 145 - 150 - 155 - 160	730
gag dag act aag att ggt agd agg aat gtt dot aaa gda acd dag agt	328

Glu	Gln	Thr	Lys	Ile 165	Gly	Ser	Arg	Asn	Val	Pro	Lys	Ala	Thr	Gln 175	Ser	
		aga Arg														876
		cag Gln 195														924
		cag Gln														97.2
		cca Pro														1020
-		agt Ser			-		-				-		-	_	_	1068
		att Ile														1116
		agg Arg 275														1164
		agc Ser														1212
		gcc Ala														1260
-		cag Gln		_												1308
		aat Asn														1356
		caa Gln 355														1404
		aca Thr														145.
		tca Ser														1500

385			390					395			400		
			cag Gln										1548
			caa Gln										15 36
_	-	 	 aag Lys		_	_							1644
			aog Thr										16∄.
			gaa Glu 470										174:)
			acc Thr										1783
-	_	_	gat Asp	-			-			-			1830
			gga Gly										1884
			att Ile										1930
			gog Ala 550										1980
			agg Arg										20DH
			aag Lys										2076
			agc Ser									:	2124
			aga Arg									:	2172

P

						_		gac Asp		-	-	_	_	_		3230
_		_	_	_				agc Ser	-	-			_	-		2268
								agg Arg 665								2316
								gac Asp								23.64
		-	-	-	-	-		tat Ser	-	_	_		-			2412
								caa Gln								0460
			-		-	-		tod Ser			_			-		2508
								agc Ser 745								.:556
		_	_		-	-		cat His		-						2604
								agc Ser								J652
			-	_		-	-	ago Ser	_	_						2700
_				tto Phe 805				tgad	asatq	gaa (gjgaa	acacı	ca g∈	gagge	gattt	3754
agea gtga	actco agtto	cgg (gagg ggaca	tagad	gg ca ag ga	aggo actai	ggati tadad	t tot g aga	gagt	ttag	agg	ccag	aat (ggta:	aatooc tacaga aataaa	2914 2874 2934 2966

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<pre>ka20 +</pre>	
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god agt oga dad agg dag gat ata agt adt gad atg att aga adt add ——283 Ala Ser Arg His Arg Lys Asp Ile Ser Thr Glu Met Ile Arg Thr Lys ————————————————————————————————————	
att got dat agg aaa toa otg tot dag ala gaa aat aga dat aag gaa 331 Ile Ala His Arg Lys Ser Leu Ser Glr. Lys Glu Asn Arg His Lys Glu 25 30 35	L
tad gaa dga aat aga dad tit ggi tig ala gai gia aad att dda add - 379 Tyr Glu Arg Ash Arg His Phe Gly Led Lys Asp Val Ash Ile Pro Thr 40 45 50	.•
ttg gaa ggt aga att ott gtt gaa tta gat gag ada tot daa gag ott 427 Leu Glu Gly Arg Ile Leu Val Glu Leu Amp Glu Thr Ser Gln Glu Leu 95 60 65 70	,
gtt oca gaa aag abd aat gtt aag oca ang goa atg aaa act att ota 475 Val Pro Glu Lys Thr Ash Val Lys Pro Ang Ala Met Lys Thr Ile Leu 75 - 65	
ggt gat daa dga asa dag atg dtd daa awa tad aaa gaa gaa aag daa - 593 Gly Asp Gln Arg Lys Gln Met Leu Gln Lys Tyr Lys Glu Glu Lys Gln 90 - 95 - 100	
ott daa aaa ttg aaa gag dag aga gag aaa got aaa oga gga ata ttt — 571 Leu Gln Lys Leu Lys Blu Gln Arg Glu Lys Ala Lys Arg Gly Ile Phe 105 — 110 — 115	L
aaa gtg ggt ogt tat aga oot gat atg oot tgt tit ott tia toa aac 619 Lys Val Gly Arg Tyr Arg Pro Asp Met Pro Cys Phe Leu Leu Ser Asn 120 125 130	4
dag aat got gtg awa got gag oom aaw awg got att oom tot tot gta Gln Asn Ala Val Lys Ala Glu Pro Lys Lys Ala Ile Pro Ser Ser Val 135 140 145 150	?
ogg att aca agg toa aag god aaa gad daa atg gag dag adt aag att 715 Arg Ile Thr Arg Ser Lys Ala Lys Asp Gln Met Glu Gln Thr Lys Ile 155 100 165	
gat aac gag agt gat gtt oga goa ato oga bot ggt oba aga baa act 763 Asp Asn Glu Ser Asp Val Arg Ala Ile Arg Pro Gly Pro Arg Gln Thr 170 175 180	5

 $V^{'}$

	_			gtg Val					_	 			811
_			-	ttg Leu								_	859
_	_		_	aca Thr	_			•	_		-		+t) 7
_		-		gaa Glu 235			-	 _	, .				+5·5·
_		-		aat Asn	-				-			-	1003
				gaa Glu									1651
				oda Pro									1099
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				cag Gln 315									1195
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				aaa Lys									1091
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				ttg Leu									1387
				tta Lau 395									1435

, ,		cca Pro			-					-	_		-		-	1483
	-	cag Gln 425														1531
	_	act Thr									-					1579
	_	ttg Leu	_				-			-			-		-	1627
		caa Gln														1675
		gtt Val														17113
		gat Asp 505														1771
		atc Ile														1819
		gto Val				-				-				_		1867
		aaa Lys	-	-				-					_	_	gat Asp	1915
		aga Arg														1963
		gag Glu 585														2011
		cca Pro	_	-	_	•					-	-				.2059
_	-	gaa Glu	_		-								-			2107
gaa	ggc	pat	tct	caa	aga	ctt	gga	aca	cct	aag	tot	gtc	aac	aaa	gat	2135

X

Glu	Gly	Pro	Ser	Gln 635	Arg	Leu	Gly	Thr	Pro 640	ឯបូន	Ser	Val	Asn	Lys 645	Ala	
					aat Asri											0003
					cat Pro											1251
					att Ile											: 1199
					eca Pro 700											1347
					gtg Val											3395
					gga Gly											2443
					gtt Val											0491
					ttg Leu											1539
					gaa Glu 730											J.5.87
					agt Ser											2635
					agt Ser					-	-					U693
					cac His											2731
					gga Gly			tgaa	attta	a a a	aataa	aats	ca a	acath	tttac	2785
															gtattt ttttag	3845 2905

atatactett teteaaggga agtggggata ttttgtacat ttteaacaca gaataaaaaa tgtaetgtge ettg

2965 2979

minde